Long-Term Controlled Protein Release from Poly(Ethylene Glycol) Hydrogels by Modulating Mesh Size and Degradation.

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Public Summary:
Poly(ethylene glycol) (PEG)-based hydrogels are popular biomaterials for protein delivery to guide desirable cellular fates and tissue repair. However, long-term protein release from PEGbased hydrogels remains challenging. Here, we report a PEG-based hydrogel platform for long term protein release, which allows efficient loading of proteins via physical entrapment. Tuning hydrogel degradation led to increase in hydrogel mesh size and gradual release of protein over 60 days of with retained bioactivity. Importantly, this platform does not require the chemical modification of loaded proteins, and may serve as a versatile tool for longterm delivery of a wide range of proteins for drug delivery and tissue-engineering applications.

Scientific Abstract:
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